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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,493	08/23/2001	Richard E. Smalley	11321-P034US	1436
7590 04/20/2004 Winstead Sechrest & Minick P.C. 5400 Renaissance Tower Dallas, TX 75270-2199			EXAMINER TSOY, ELENA	
			ART UNIT 1762	PAPER NUMBER
DATE MAILED: 04/20/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,493

Applicant(s)

SMALLEY ET AL.

Examiner

Elena Tsoy

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-15, 17-24, 27, 47-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-15, 17-24, 27 and 47-75 is/are rejected.
- 7) ☒ Claim(s) 25, 26, 76 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Response to Amendment

1. Amendment filed on March 8, 2004 has been entered. Claims 1-10, 16, 28-46 have been cancelled. New claims 47-76 have been added. Claims 11-15, 17-27, 47-76 are pending in the application.

Election/Restrictions

2. Claims 1-10, 28-46 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper filed on March 8, 2004.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. **Claims 11, 15, 47** are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shaffer et al (Advanced materials, 11, No. 11, 1999).

Shaffer et al disclose a method for making polymer-coated carbon nanotubes comprising mixing aqueous solution of PVOH polymer solution with arc-grown carbon nanotubes (See page 937, paragraph 2) followed by casting and controlled water evaporation (See page 938, paragraph 2) so that to cover the nanotube with an adsorbed layer of the polymer (See page 938, paragraph 3).

The Examiner's Note: it is well known in the art that arc-grown carbon nanotubes contain single-wall nanotubes (SWNT).

If it could be argued that arc-grown carbon nanotubes contain multi-wall nanotubes (MWNT) not single-wall nanotubes (SWNT), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the same method with the expectation of providing the desired covering of SWNT, since surface of SWNT is substantially identical to that of MWNT.

6. **Claims 11, 15, 17** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Uchida et al (US 5,560,898).

Uchida et al disclose a method for making polymer-coated carbon nanotubes (SWNT and MWNT) comprising adding a polymeric surfactant to a suspension of carbon nanotubes in water (See column 2, lines 25-29).

If it could be argued that carbon nanotubes of Uchida et al contain only MWNT, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have

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used the same method with the expectation of providing the desired covering of SWNT, since surface of SWNT is substantially identical to that of MWNT.

7. **Claims 11, 13, 15, 24, 48** are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Davey et al (US 6,576,341).

Davey et al disclose a method for making polymer-coated carbon nanotubes comprising dispersing nanotube soot and various coiling nanotube extracting polymers such as DNA, poly(m-phenylene-co-2,5-dioctoxy-p-phenylenevinylene, poly(dioctyl fluorene) or poly(sulphonic acid) (See column 3, lines 25-32) in a suitable solvent, which can solubilise the nanotube extracting material (See column 3, lines 56-57) by mixing and sonicating (See column 3, line 62). The polymer-coated carbon nanotubes can be blended with other plastics (See column 8, lines 12-13) in injection moulding (See column 8, line 12).

It is the Examiner's position that a suitable solvent, which can solubilise the poly(sulphonic acid) polymer is water.

If it could be argued that carbon nanotubes of Davey et al contain only MWNT, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the same method with the expectation of providing the desired covering of SWNT, since surface of SWNT is substantially identical to that of MWNT.

8. **Claims 11, 12, 14, 15, 18, 19, 47** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuper (US 2002/0092613) in view of Shaffer et al (Advanced materials, 11, No. 11, 1999).

Kuper discloses a method for making polymer-coated SWNT comprising wrapping a polymer around the body of purified SWNT (See [0027]).

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Kuper fails to teach that the polymer is wrapped around the body of SWNT by mixing SWNT and a water-soluble polymer in water (Claim 11); the polymer and the plurality of individual single wall carbon nanotubes are added to the solvent sequentially (Claim 14); the concentration of single-wall carbon nanotubes in the solvent is between about 0.1 grams/liter and about 5 grams/liter (Claim 18) or between about 1.0 percent and about 5.0 percent by weight (Claim 19).

Shaffer et al teach that carbon nanotubes can be coated (wrapped) with a polymer (See page 938, paragraph 3) by mixing an aqueous solution of (a water-soluble polymer) PVOH with the nanotubes (See page 937, paragraphs 2, 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have mixed SWNT of Kuper with an aqueous solution of a water-soluble polymer such as PVOH with the expectation of providing the desired polymer-coated SWNT, since Shaffer et al teach that carbon nanotubes can be coated (wrapped) with a polymer by mixing an aqueous solution of a water-soluble polymer such as PVOH with the nanotubes.

As to claim 14, it is held that sequence of adding ingredients is obvious absent a showing of criticality. In re Gibson 5 USPQ 231, 232 (CCPA 1930).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a polymer and SWNT in a method of Kuper in view of Shaffer et al sequentially to water since it is held that sequence of adding ingredients is obvious absent a showing of criticality.

As to claims 18, 19, it is held that concentration limitations are obvious absent a showing of criticality. Akzo v. E.I. du Pont de Nemours 1 USPQ 2d 1704 (Fed. Cir. 1987).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters (including those of claims 18, 19) in a method of Kuper in view of Shaffer et al through routine experimentation in the absence of a showing of criticality.

9. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al (Advanced materials, 11, No. 11, 1999)/Kuper (US 2002/0092613) in view of Shaffer et al (Advanced materials, 11, No. 11, 1999), in view of Riggs et al (J. Phys. Chem. B 2000, 104, 70-71-7076).

Shaffer et al/Kuper in view of Shaffer et al fail to teach that that the solvent further contains a surfactant, i.e. both polymer and surfactant are used for treating SWNT.

Riggs et al teach that an aqueous suspension of SWNT can be stabilized via sonification in the presence of the surfactant Triton (See page 7072, last paragraph).

It is held that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). See also In re Crockett, 279 F.2d 274, 126 USPQ 186 (CCPA 1960); and Ex parte Quadranti, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a combination of polymer and surfactant for adding to a suspension of SWNT in a method of Shaffer et al/Kuper in view of Shaffer et al since Riggs et al teach that an aqueous suspension of SWNT can be stabilized via sonification in the presence of the surfactant.

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10. **Claims 20, 22** are rejected under 35 U.S.C. 102(b) as being anticipated by Riggs et al (JACS, 2000, 122, 5879-5880).

Riggs et al disclose a method for making polymer-coated carbon nanotubes comprising mixing (functionalized) single-wall nanotubes (SWNT) and polypropionylethyleneimine-co-ethyleneimine in a solvent and reacting at 165⁰C for 20 min. (See page 5879, paragraphe 2).

11. **Claims 20-23, 49-54, 66, 75** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al (Advanced materials, 11, No. 11, 1999) in view of Tohji et al (Fullerene Science and Technology, 7(4), 665-679, 1999).

Shaffer et al fail to teach that that water is heated to a temperature at least 40 ⁰C (Claims 20, 49) or between about 50⁰C and about 60⁰C (Claims 51, 21) for 1-100 hours (Claims 22, 23, 50, 53) or for 1-50 hours (Claims 52, 54).

Tohji et al teach that treating fullerene soot with boiling water untangles the fullerenes such as SWNT from the soot (See page 666, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have heated water comprising arc-grown carbon nanotubes (with an accompanying soot) and a water-soluble polymer in Shaffer et al with the expectation of providing the desired separation of the carbon nanotubes from the soot, since Tohji et al teach that treating fullerene soot with boiling water untangles the fullerenes such as SWNT from the soot.

As to claims 50-54, one of ordinary skill in the art at would know that effect of heat treating depends on temperature and time of treating so that the same result as treating at high temperature and short period of time can be achieved at lower temperature but for longer time. In other words, time and temperature are result effective parameters in a heating process.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant temperature and time parameters (including those of claims 50-54) in a method of Shaffer et al in view of Tohji et al through routine experimentation in the absence of a showing of criticality.

12. **Claims 20-23, 49-54, 56, 57, 60-64, 67, 68, 71-73** are rejected under 35 U.S.C. 103(a) as being unpatentable over Davey et al (US 6,576,341) in view of Tohji et al (Fullerene Science and Technology, 7(4), 665-679, 1999).

Davey et al are applied for the same reasons as above. Davey et al fail to teach that that water is heated to a temperature at least 40 °C (Claims 20, 49) or between about 50°C and about 60°C (Claims 51, 21) for 0.1-100 hours (Claims 22, 23, 50, 53, 62) or for 1-50 hours (Claims 52, 54, 63); the concentration of SWNT in the solvent is 0.1-5.0 grams/liter (Claims 60, 71); the concentration of polymer in the solvent is 0.1-5.0 wt % (Claims 61, 72).

Tohji et al teach that treating fullerene soot with boiling water untangles the fullerenes such as SWNT from the soot (See page 666, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have heated water comprising arc-grown carbon nanotubes (with an accompanying soot) and a water-soluble polymer in Davey et al with the expectation of providing the desired separation of the carbon nanotubes from the soot, since Tohji et al teach that treating fullerene soot with boiling water untangles the fullerenes such as SWNT from the soot.

It is held that concentration limitations are obvious absent a showing of criticality. Akzo v. E.I. du Pont de Nemours 1 USPQ 2d 1704 (Fed. Cir. 1987). Also, one of ordinary skill in the

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art at would know that choice of temperature and reaction time would depend on particular polymer, i.e. temperature and reaction time are result-effective parameters.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration limitations, temperature parameters and reaction time (including claimed ones) in a method of Davey et al in view of Tohji et al through routine experimentation in the absence of a showing of criticality.

13. **Claims 21, 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Riggs et al (JACS, 2000, 122, 5879-5880).

Riggs et al, as applied above, fail to teach that the solvent is heated to a temperature of between about 50⁰C and about 60⁰C (Claim 21) for 1-50 hours (Claim 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant temperature parameters and reaction time (including those of claims 21 and 23) in a method of Riggs et al through routine experimentation in the absence of a showing of criticality.

14. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al (Advanced materials, 11, No. 11, 1999)/Kuper (US 2002/0092613) in view of Shaffer et al (Advanced materials, 11, No. 11, 1999), in view of Bower et al (EP 989579).

Shaffer et al/Kuper in view of Shaffer et al fail to teach that the method further comprises the step of aligning the nanotubes by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field.

Bower et al teach that a mixture of purified SWNT or MWNT (See [0018], [0020], column 13, line 25) with solvents and polymers to form a solution or slurry (See [0028], [0029]),

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applied to a substrate can be aligned by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field (See claim 15; column 9, lines 38-40; column 10, lines 18-43, 56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have aligned polymer-coated nanotubes in Shaffer et al/Kuper in view of Shaffer et al by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field since Bower et al teach that a mixture of SWNT or MWNT and polymers can be aligned by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field.

15. **Claim 55** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al (Advanced materials, 11, No. 11, 1999)/Kuper (US 2002/0092613) in view of Shaffer et al (Advanced materials, 11, No. 11, 1999), in view of Riggs et al (J. Phys. Chem. B 2000, 104, 70-71-7076), and further in view of Hsu (US 5,653,996).

Shaffer et al/Kuper in view of Shaffer et al in view of Riggs et al fail to teach that the surfactant is sodium dodecyl sulfate (SDS).

Hsu teaches that SDS is functionally equivalent to Triton stabilizing agent in the presence of stabilizing polymer (See column 5, lines 18-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used SDS instead of Triton in Shaffer et al/Kuper in view of Shaffer et al in view of Riggs et al since Hsu teaches that SDS is functionally equivalent to Triton stabilizing agent in the presence of stabilizing polymer.

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16. **Claims 58, 69** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al (Advanced materials, 11, No. 11, 1999) in view of Tohji et al (Fullerene Science and Technology, 7(4), 665-679, 1999) or Davey et al (US 6,576,341) in view of Tohji et al (Fullerene Science and Technology, 7(4), 665-679, 1999), in view of Riggs et al (J. Phys. Chem. B 2000, 104, 70-71-7076).

Shaffer et al in view of Tohji et al / Davey et al in view of Tohji et al fail to teach that that the solvent further contains a surfactant, i.e. both polymer and surfactant are used for treating SWNT.

Riggs et al teach that an aqueous suspension of SWNT can be stabilized via sonification in the presence of the surfactant Triton (See page 7072, last paragraph).

It is held that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). See also In re Crockett, 279 F.2d 274, 126 USPQ 186 (CCPA 1960); and Ex parte Quadranti, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a combination of polymer and surfactant for adding to a suspension of SWNT in a method of Shaffer et al in view of Tohji et al / Davey et al in view of Tohji et al since Riggs et al teach that an aqueous suspension of SWNT can be stabilized via sonification in the presence of the surfactant.

17. **Claims 59, 70** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al (Advanced materials, 11, No. 11, 1999) in view of Tohji et al (Fullerene Science and

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Technology, 7(4), 665-679, 1999) or Davey et al (US 6,576,341) in view of Tohji et al (Fullerene Science and Technology, 7(4), 665-679, 1999), in view of Riggs et al (J. Phys. Chem. B 2000, 104, 70-71-7076), and further in view of Hsu (US 5,653,996).

Shaffer et al in view of Tohji et al / Davey et al in view of Tohji et al in view of Riggs et al fail to teach that the surfactant is sodium dodecyl sulfate (SDS).

Hsu teaches that SDS is functionally equivalent to Triton stabilizing agent in the presence of stabilizing polymer (See column 5, lines 18-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used SDS instead of Triton in Shaffer et al in view of Tohji et al / Davey et al in view of Tohji et al in view of Riggs et al since Hsu teaches that SDS is functionally equivalent to Triton stabilizing agent in the presence of stabilizing polymer.

18. **Claims 65, 74** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al (Advanced materials, 11, No. 11, 1999) in view of Tohji et al (Fullerene Science and Technology, 7(4), 665-679, 1999) / Davey et al (US 6,576,341) in view of Tohji et al (Fullerene Science and Technology, 7(4), 665-679, 1999), further in view of Bower et al (EP 989579).

Shaffer et al in view of Tohji et al / Davey et al in view of Tohji et al fail to teach that the method further comprises the step of aligning the nanotubes by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field.

Bower et al teach that a mixture of purified SWNT or MWNT (See [0018], [0020], column 13, line 25) with solvents and polymers to form a solution or slurry (See [0028], [0029]), applied to a substrate can be aligned by application of an external field selected from the group

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consisting of an electrical field, a magnetic field and a shear flow field (See claim 15; column 9, lines 38-40; column 10, lines 18-43, 56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have aligned polymer-coated nanotubes in Shaffer et al in view of Tohji et al / Davey et al in view of Tohji et al by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field since Bower et al teach that a mixture of SWNT or MWNT and polymers can be aligned by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field.

Allowable Subject Matter

19. **Claims 25, 26, 76** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: Claims 25 is allowed because the prior art of the record does not teach or suggest that the polymer coat can be removed from the nanotubes by contacting the coated nanotubes with a solvent having a low surface tension.

Claims 26, 76 are allowed as further limiting allowed claim 25.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

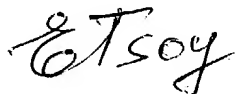
20. Applicant's arguments with respect to claims 11-15, 17-24, 27, 47-75 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Elena Tsoy
Examiner
Art Unit 1762

April 13, 2004